REMARKS

Claims 3, 9 and 11-15 are pending in the application. Claims 3, 11 and 13 are independent claims.

On May 2, 2003, applicants submitted a supplemental Information Disclosure Statement, hereinafter "IDS". It does not appear that Examiner has acknowledged receipt of the IDS. Applicants respectfully request that Examiner acknowledge receipt of the IDS, and indicate consideration of the references provided therein, in the next Office Action.

Claims 3, 9 and 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,539,922 to Wang, hereinafter "Wang". Applicants respectfully traverse this rejection.

Claim 3 provides a method of deriving location information about a first entity forming one endpoint of an actual or potential communication path at the other end of which is a second entity. The path extends at least in part through a fixed communications infrastructure. The method includes the steps of (a) identifying a first intermediate node that lies along the path and is internal to the fixed communications infrastructure, (b) accessing information about a geographic significance of the first intermediate node taking into account an identity of a second intermediate node that lies in the path downstream of the first intermediate node when considered in a direction along the path towards the first entity, and (c) using the geographic significance information accessed in step (b) to provide the location information about the first entity.

Wang discloses a method for locating a portable transceiver in a communication system (co. 1, line 50-52). The system has a multiplicity of ports for transferring communication information between a plurality of transceivers, each of the plurality of

transceivers being coupled to one of the multiplicity of ports (col. 1, lines 52-56). A multiplicity of nodes transfer information between the multiplicity of ports, wherein each of the multiplicity of ports is uniquely coupled to one of the multiplicity of nodes, and each of the multiplicity of nodes has a memory capable of storing data indicative of a port to which the transceiver is coupled (col. 1, lines 56-62). The multiplicity of ports are included in a plurality of node trees having the multiplicity of nodes structured as a hierarchical system of nodes (col. 1, lines 62-66). A root node is structured as a highest node in the hierarchical system of nodes, and the plurality of node trees includes a home tree associated with the transceiver (col. 1, line 66 – col. 2, line 4).

An example of the method in Wang, described in conjunction with Figure 22, includes the following. A transceiver 840 is registered somewhere in California, by having a California home address. The transceiver has a current address defined by the address chain: Florida, "904", Jacksonville, and PCS port 826, and is moving into a new address of PCS port 810, thereby by having an new address of Georgia, "912", Savannah, PCS port 810 (col. 21, line 51-56).

According to the above address, in the node Florida, 820, there is an entry associated with the transceiver indicating that the transceiver is currently at area code "904" node, 822. In the same way, there is an entry in the area code node "904" pointing to the Jacksonville node, 824, and there is an entry in the node Jacksonville pointing to the PCS port, 826. (col. 21, line 57 – col. 22, line 3)

The address location is provided by entries in each node along a path from the transceiver to the root node, indicating a portion of the address of the transceiver and defining a path to the transceiver. The address chain of a new location of the transceiver is updated and defined by a signal from the transceiver, adding an entry to each node in the path from the transceiver to the root node (col. 22, lines 4-24). For example, upon moving to its new location at PCS port 810, the transceiver transmits a message to the PCS port, which in turn couples to the transceiver and transmits a message to the layer two parent node “Savannah”, 806 (col. 22, lines 4-8). Receiving

the message, the node Savannah transmits a message to its parent area code "912" node, 802, and adds a new entry for that transceiver indicating that the transceiver is currently in the covered area of one of its layer i-1 child nodes (col. 22, lines 8-12). This process repeats in node "912", 802 (col. 22, lines 12-13). When node Georgia, 800, receives the message it will transmit a message to the home root node, California, 835 and Florida, 820 (col. 22, .lines 13-16). Thus, the address is updated and established by a signal originating from the portable transceiver, which is established along a path from the transceiver to the root node.

The nodes disclosed in Wang are each assigned a specific label having a specific geographical significance, which is used in conjunction with other node layers to determine transceiver location. For example, the nodes described in Wang are assigned a specific geographical significance such as "Florida" in Figure 22. The node labeled "Florida" **has a single assigned geographical significance, namely the state of Florida. This geographic significance does not change**, as a communication path including this node will only provide information that the transceiver is in Florida. Another connected node, such as in layer 3, must be read to determine more precise geographical location.

In contrast, the method of claim 3 provides a geographic significance that is not pre-determined, but rather takes into account an identity of a second intermediate node in a communication path toward a first entity. Thus, if the method of claim 3 is applied to the "Florida" node of Wang, this node would have at least three different geographic significances associated with it, namely:

- "USA" for the case of the USA layer-5 node being closer to the first entity (that is, the entity whose location is of interest) than the Florida node;
- "407" for the case of the 407 layer-3 node being closer to the first entity than the Florida node;
- "904" for the case of the 904 layer-3 node being closer to the first entity than the Florida node.

In addition, the method described in Wang and cited by the Examiner (col. 21, line 41 – col. 22, line 3) describes a method in which location information of an entity is provided by a signal from the entity itself. In contrast, the method of claim 3 uses a communication path to access information about a geographic significance of a first intermediate node by taking into account an identity of a second intermediate node that lies downstream in the path in a direction along the path towards the entity.

Furthermore, Wang discloses a method for determining a location of an entity by determining all of the constituent node labels in an address considered in a path **away from the entity and towards a root node**. In contrast, the method of claim 3 provides a method for determining location information of a first entity by "accessing information about a geographic significance of said first intermediate node taking into account an identity of a second intermediate node that lies in said path downstream of the first intermediate node **when considered in a direction along said path towards said first entity**," as recited in claim 3.

Also, in the Office Action in paragraph 2, the Examiner equates layer 4 with a "second entity" provided in claim 3. However, Applicants respectfully submit that layer 4 cannot be considered a second entity, because layer 4 is not a communication endpoint. Claim 3 provides for "a first entity forming one endpoint of an actual or potential communication path at the other end of which is a second entity . . ." Wang describes a communication system for transferring communication information **between a plurality of transceivers** (col. 1, lines 52-55), and further describes the root nodes, such as those in layer 4, as **coupled to other root nodes** so that a call between a customer at one tree may be made to a customer at another tree (col. 19, lines 8-11). Thus, the root nodes of layer 4 are not communication endpoints. Therefore, the root nodes such as those described in layer 4 cannot be considered a "second entity" as provided in claim 3.

In addition, in the Office Action in paragraph 2, the Examiner equates PCS Ports Layer 1, 826, with a "first intermediate node" provided in claim 3. However, Applicants

respectfully submit that port 826 of Wang cannot be the first intermediate node of claim 3 because port 826 is not "internal to the fixed communications infrastructure" as provided in claim 3. Wang discloses a plurality of ports, wherein each transceiver is coupled to one of the plurality of ports (col. 1, lines 52-56). Port 826 is thus an external interface point of the infrastructure, and therefore is not "internal to the fixed communications infrastructure" as provided in claim 3.

Therefore, Wang does not disclose or suggest accessing geographic significance of a first entity forming one endpoint of an actual or potential communication path at the other end of which is a second entity, and also does not disclose or suggest identifying a first intermediate node that lies along said path and is internal to the fixed communications infrastructure. Wang further does not disclose or suggest taking into account the identity of a second intermediate node that lies in a path downstream from the first intermediate node when considered in a direction along the path towards the first entity. Therefore, Wang fails to disclose or suggest the elements of claim 3. Thus, claim 3 is patentable over Wang.

Claim 9 depends from claim 3. For at least reasoning similar to that provided in support of claim 3, claim 9 is also patentable over Wang.

Independent claim 11 provides a method of discovering geographic significance information about nodes in a communications infrastructure. The method includes the steps of (a) deriving location data about a first entity forming one endpoint of an actual or potential path through the communications infrastructure to a second endpoint entity, (b) identifying one or more intermediate nodes along the path, (c) associating the location data with each said intermediate node, and (d) repeating steps (a) to (c) multiple times for different first-entity locations and thereafter consolidating for each node, the associated location data into location zone data constituting said geographic significance data for the node.

As described above, Wang discloses a method for locating a portable transceiver that includes ascertaining an address of the transceiver based on a hierarchical system

of nodes, each of which have an assigned geographical significance. However, Wang does not disclose associating the location data with each node in the communication path, and further does not disclose repeating those steps for multiple different locations of an entity and consolidating the associated location data for each node.

Therefore, Wang does not disclose "repeating steps (a) to (c) multiple times for different first-entity locations and thereafter consolidating for each node, the associated location data into location zone data constituting said geographic significance data for the node," as recited in claim 11. Thus, claim 11 is patentable over Wang.

Claim 12 depends from claim 11. For at least reasoning similar to that provided in support of claim 11, claim 12 is also patentable over Wang.

Independent claim 13 provides a system for deriving location information about a first entity forming one endpoint of an actual or potential communication path at the other end of which is the system, the path extending at least in part through a fixed communications infrastructure. The system includes a data store, a node-discovery subsystem and a data-processing subsystem. The data store holds information about the geographic significance of internal nodes of the fixed communications infrastructure, with respect to directions of traversal of the nodes. The node-discovery subsystem identifies one or more of the nodes that lie along the path intermediate the system and the first entity. The data-processing subsystem operates to look up, in the data store, geographic significance information regarding at least one intermediate node identified by the node discovery subsystem. The geographic significance information concerned relates to a direction of traversal of the node in a direction along the path towards the first entity. This information is used by the data-processing subsystem to provide the location information about the first entity.

The method described in Wang and cited by the Examiner (col. 21, line 41 – col. 22, line 3) describes a method in which location information is provided by the entity itself. However, Wang does not disclose a system that determines location information

by using geographic significance information "relating to **a direction of traversal** of the node in a direction along the path towards the first entity," as recited in claim 13.

Furthermore, Wang discloses a method for determining a location of an entity by determining all of the constituent node labels in an address considered in a path **away from the entity and towards a root node**. In contrast, the system of claim 13 provides a system for determining location information about a first entity that includes a data-processing subsystem for looking up "geographic significance information regarding at least one said intermediate node identified by the node discovery subsystem, the geographic significance information concerned relating to a direction of traversal of the node **in a direction along said path towards said first entity** and this information being used by the data-processing subsystem to provide said location information about the first entity."

Wang fails to disclose a system that determines location information of a first entity using geographical significance of an intermediate node relating to a direction of traversal of the node along a path toward the first entity. Therefore, Wang fails to disclose the elements of claim 13. Thus, claim 13 is patentable over Wang.

Claims 14 and 15 depend from claim 13. For at least reasoning similar to that provided in support of claim 13, claims 14 and 15 are patentable over Wang.

For the reasons set forth above, the rejection of claims 3, 9 and 11-15 under 35 U.S.C. 102(b) as anticipated by Wang is overcome. Applicants respectfully request that the rejection of claims 3, 9 and 11-15 be reconsidered and withdrawn.

An indication of the allowability of all pending claims by issuance of a Notice of Allowability is earnestly solicited.

Respectfully submitted,

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Paul D. Greeley
Reg. No. 31,019
Attorney for Applicants
Ohlandt, Greeley, Ruggiero & Perle, LLP
One Landmark Square, 10th Floor
Stamford, CT 06901-2682
Tel: (203) 327-4500
Fax: (203) 327-6401